

Appl. No. 09/903,174

Paper dated February 6, 2004

Reply to Office Action dated November 6, 2003

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (currently amended): An image sensing apparatus comprising:

an image sensor;

Q' a storage area adapted to store a signal contained in at least two frames, the signal to be stored in the storage area is generated by said image sensor when a button is pressed halfway, and an object is photographed when designation of photographing of the object is initiated in accordance with operation of the release button;

a controller adapted to control an operation of writing a signal contained in at least two frames, which is generated by said image sensor, into said storage area; and

a correction unit adapted to correct a signal of an object image photographed by said image sensor, on the basis of the signal stored in said storage area.

Claim 2 (original): The apparatus according to claim 1, wherein if an operation of writing a signal generated by said image sensor into said storage area is being executed when photographing of an object image is designated, said controller makes photographing of the object image possible against the writing operation.

Claim 3 (original): The apparatus according to claim 1, wherein whenever writing a signal of one frame generated by said image sensor into said storage area, said controller switches storage areas into which the signal is to be written.

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Claim 4 (canceled).

Claim 5 (original): The apparatus according to claim 1, wherein said controller writes signals generated by said image sensor into said storage area in turn at a predetermined time interval in a photographing preparation state.

Q' **Claim 6 (original):** The apparatus according to claim 1, wherein said controller writes signals generated by said image sensor into said storage area in turn at a predetermined time interval.

Claim 7 (original): The apparatus according to claim 1, wherein said correction unit subtracts a signal stored in said storage area from a signal of an object image photographed by said image sensor.

Claim 8 (original): The apparatus according to claim 1, wherein said controller allows storage of a signal of an object image photographed by said image sensor into said storage area in continuous photographing.

Claim 9 (original): The apparatus according to claim 1, wherein said controller allows storage of a signal of an object image photographed by said image sensor into said storage area.

Claim 10 (original): The apparatus according to claim 1, wherein a signal generated by said image sensor contains a dark current noise component.

Claim 11 (original): The apparatus according to claim 10, wherein said controller has a function of controlling the time of storage of electric charge to said image sensor during which a dark current noise component is acquired.

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Claim 12 (original): The apparatus according to claim 11, wherein said correction unit corrects a signal of an object image photographed by said image sensor, on the basis of a noise component stored in said storage area and the time of storage of electric charge to said image sensor during which the noise component is acquired.

a' **Claim 13 (currently amended):** An information processing apparatus which processes information provided by an image sensing apparatus, comprising:

a storage unit adapted to store a first signal generated by an image sensor, wherein the first signal is a signal for correcting a second signal generated when said image sensor photographs an object; and

a control unit adapted to ~~give priority to designation of photographing of an object image over an operation of stop~~ writing the first signal generated by said image sensor into said storage unit when designation of photographing of an object is initiated.

Claim 14 (original): The apparatus according to claim 13, wherein said storage unit stores a signal contained in at least two frames, which is generated by said image sensor.

Claim 15 (original): The apparatus according to claim 13, wherein said image sensing apparatus comprises a shutter on an optical path for guiding light to said image sensor, the first signal is generated by said image sensor when said shutter is kept closed, and the second signal is generated by said image sensor when said shutter is opened.

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Claim 16 (original): The apparatus according to claim 13, wherein said control unit controls an operation of storing the first signal into said storage unit at a predetermined time interval in a photographing preparation state.

Claim 17 (original): The apparatus according to claim 13, wherein said control unit controls an operation of storing the first signal into said storage unit at a predetermined time interval.

Claim 18 (original): The apparatus according to claim 13, further comprising a correction unit adapted to correct the second signal, generated when said image sensor photographs an object, by using the first signal.

Claim 19 (currently amended): The apparatus according to claim 13, wherein said control unit stores the second signal photographed by said image sensor into said storage ~~area~~ unit in continuous photographing.

Claim 20 (currently amended): The apparatus according to claim 13, wherein said control unit stores the second signal photographed by said image sensor into said storage ~~area~~ unit.

Claim 21 (original): The apparatus according to claim 13, wherein the first signal generated by said image sensor contains a dark current noise component.

Claim 22 (original): The apparatus according to claim 21, wherein said control unit has a function of controlling the time of storage of electric charge to said image sensor during which a dark current noise component is acquired.

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Claim 23 (original): The apparatus according to claim 22, wherein said control unit corrects the second signal in connection with the time of storage of electric charge to said image sensor during which a dark current noise component is acquired.

Claim 24 (currently amended): An information processing apparatus which processes information provided by an image sensing apparatus, comprising:

an acquisition unit adapted to acquire a signal generated by an image sensor;

a storage unit adapted to store a first signal generated by said image sensor, wherein the first signal is a signal for correcting a second signal generated when said image sensor photographs an object; and

a control unit adapted to ~~give priority to designation of photographing of an object image~~ over stop an operation of acquiring the first signal generated by said image sensor when designation of photographing of an object image is initiated.

Claim 25 (original): The apparatus according to claim 24, wherein said storage unit stores a signal contained in at least two frames, which is generated by said image sensor.

Claim 26 (original): The apparatus according to claim 24, wherein said image sensing apparatus comprises a shutter on an optical path for guiding light to said image sensor, the first signal is generated by said image sensor when said shutter is kept closed, and the second signal is generated by said image sensor when said shutter is opened.

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Claim 27 (original): The apparatus according to claim 24, wherein said control unit controls an operation of storing the first signal into said storage unit at a predetermined time interval in a photographing preparation state.

Claim 28 (original): The apparatus according to claim 24, wherein said control unit controls an operation of storing the first signal into said storage unit at a predetermined time interval.

Claim 29 (original): The apparatus according to claim 24, further comprising a correction unit adapted to correct the second signal, generated when said image sensor photographs an object, by using the first signal.

Claim 30 (original): The apparatus according to claim 24, wherein said control unit stores the second signal photographed by said image sensor into said storage area in continuous photographing.

Claim 31 (original): The apparatus according to claim 24, wherein said control unit stores the second signal photographed by said image sensor into said storage area.

Claim 32 (original): The apparatus according to claim 24, wherein the first signal generated by said image sensor contains a dark current noise component.

Claim 33 (original): The apparatus according to claim 32, wherein said control unit has a function of controlling the time of storage of electric charge to said image sensor during which a dark current noise component is acquired.

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Claim 34 (original): The apparatus according to claim 33, wherein said control unit corrects the second signal in connection with the time of storage of electric charge to said image sensor during which a dark current noise component is acquired.

Claim 35 (currently amended): A method of controlling an image sensing apparatus having an image sensor comprising:

a' securing a storage area for storing a ~~the~~ control signal contained in at least two frames[,];

and

controlling an operation of writing the control signal contained in at least two frames, which is generated by the image sensor when a button is pressed halfway, and an object is photographed when designation of photographing of the object is initiated in accordance with operation of the release button, into the storage area; and

correcting a signal of an object image photographed by the image sensor, on the basis of the signal stored in the storage area.

Claim 36 (currently amended): A method of controlling an image sensing apparatus having an image sensor with a storage area, comprising:

storing a first signal generated by the image sensor into the storage area, wherein the first signal is a signal for correcting a second signal generated when the image sensor photographs an object; and

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~~giving priority to designation of photographing of an object image over an operation of~~
controlling to stop writing the first signal generated by the image sensor into the storage area
when designation of photographing of an object image is initiated.

Claim 37 (currently amended): A method of controlling an image sensing apparatus
having an image sensor, comprising:

acquiring a first signal and a second signal generated by the image sensor;

storing a the first signal generated by the image sensor, wherein the first signal is a signal
for correcting a the second signal generated when the image sensor photographs an object; and

~~giving priority to designation of photographing of an object image over an operation of~~
controlling to stop acquiring the first signal generated by the image sensor when designation of
obtaining the second signal is initiated.

Claim 38 (currently amended): A memory medium storing a control program of an
image sensing apparatus having an image sensor, the control program comprising:

securing a storage area for storing a signal contained in at least two frames, and
controlling an operation of writing a signal contained in at least two frames, which is generated
by the image sensor when a button is pressed halfway, and an object is photographed when
designation of photographing of the object is initiated in accordance with operation of the release
button, into the storage area; and

correcting a signal of an object image photographed by the image sensor, on the basis of
the signal stored in the storage area.


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Claim 39 (currently amended): A memory medium storing a control program of an image sensing apparatus having an image sensor, the control program comprising:

storing a first signal generated by the image sensor, wherein the first signal is a signal for correcting a second signal generated when the image sensor photographs an object; and

 ~~giving priority to designation of photographing of an object image over an operation of~~
controlling to stop writing the first signal generated by the image sensor into the storage area
when designation of photographing of an object image is initiated.

Claim 40 (currently amended): A memory medium storing a control program of an image sensor, the control program comprising:

acquiring a first signal and a second signal generated by the image sensor;

storing a the first signal generated by the image sensor, wherein the first signal is a signal for correcting a the second signal generated when the image sensor photographs an object; and

~~giving priority to designation of photographing of an object image over an operation of~~
controlling to stop acquiring the first signal generated by the image sensor when designation of
obtaining the second signal is initiated.
